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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,251	05/10/2005	Marc Camiade	4590-397	3383
33308	7590	03/14/2007	EXAMINER	
LOWE HAUPTMAN GILMAN & BERNER, LLP 1700 DIAGNOSTIC ROAD, SUITE 300 ALEXANDRIA, VA 22314			LEE, BENNY T	
		ART UNIT	PAPER NUMBER	
		2817		
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/14/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/534,251	CAMIADE ET AL.	
	Examiner	Art Unit	
	Benny Lee	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 27 December 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-17 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-17 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____

The substitute specification filed 27 December 2006 has been found acceptable and has replaced the original specification.

The disclosure is objected to because of the following informalities, which pertain to the substitute specification filed 27 December 2006: Page 2, line 14, note that "in maintaining light tolerances" is vague in meaning and needs clarification. Page 3, line 14, note that "such that create" should be rephrased for clarity. Page 6, lines 18, 19, note that the extraneous "," (i.e. which use to follow the delete word "hand") should be deleted for grammatical correctness. Note that reference label "26" still needs to be explicitly described relative to "Figure 2" for consistency of description. Appropriate correction is required.

The following claims have been found objectionable for reasons set forth below:

In claim 1, line 8; claim 2, lines 3, 4; claim 4, line 5; claim 9, line 3; claim 10, line 3: note that "the main working frequency" should be rephrased as --the main frequency-- for consistency in claim language.

In claim 1, line 9; claim 3, line 3; claim 6, line 3: note that "working frequency" should be rephrased as --main frequency-- for consistency in claim language.

In claim 1, last line, note that a --,-- should be inserted after "F" for grammatical correctness.

In claim 2, line 4, note that "this frequency" should be rephrased as --said main frequency-- for consistency in claim language.

In claims 4, 9, 10, line 2 of each claim, note that "means of multiplying" should be rephrased as --means for multiplying-- and "in a ratio" should be rephrased as --by a ratio--, respectively for an appropriate characterization.

In claim 5, line 2, note that “which” should be rewritten as --the ceramic substrate-- for an appropriate characterization; line 4, note that --the-- should be inserted between “provide” and “contactless” for grammatical correctness.

In claims 8, 15, 16, 17, line 3 of each claim, note that “of which one free end is” should be rephrased as --having one free end which is-- for an appropriate characterization; lines 3, 5 of each claim, note that “a contactless coupling” should be rephrased as --the contactless coupling-- to avoid antecedent basis problems; line 5 of each claim, note that “this opening” should be rephrased as --the opening-- for clarity of description.

In claim 15, line 3, should --chip-- follow “said one” for an appropriate characterization? For example, see claim 8, lines 3, 4.

In claims 16, 17, line 3 of each claim, note that “this chip” should be rephrased as --said one chip-- for an appropriate characterization.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung et al in view of Sokolov (both of record).

Hung et al (fig. 3) discloses a waveguide to microstrip transition comprising: a hermetically sealed package including an MMIC chip (110) disposed within the package; a dielectric substrate (e.g. 102) supporting a microstrip line (112) and a ground plane (e.g. 216) on opposing surfaces of the dielectric (e.g. ceramic) substrate to function as a contactless transition between the MMIC chip and a waveguide (e.g. 234) at a first port thereof. Also, as evident from fig. 3 and fig. 1, note that the MMIC chip is also electrically connected to a microstrip line (122) on another substrate (e.g. 228, 230) at a second port. Moreover, note that the microstrip to waveguide transition, the MMIC chip and the microstrip line are respectively disposed on a metal base (202, 210, 212, 214, 216) with an opening in the metal base facing an open end of the microstrip line (112). Furthermore, note that a cover (204) is disposed over the contactless transition at a distance, which provides for short circuit reflection of signals propagating from the waveguide (i.e. a quarter wavelength distance, as known to those of ordinary skill in the art). As described at col 3, l. 46, the hermetically sealed microwave package operates over a frequency range between 20 to 100 GHZ). However, Hung et al differs from the claimed invention in that it does not disclose that the MMIC chip functions as a frequency converting device for signals coupled to the MMIC chip.

Sokolov (e.g. Figs. 1, 2) discloses an MMIC module including a frequency convertor (e.g. frequency doubler 130) associated with corresponding MMIC chips (e.g. 214, 216, 218 as

depicted in fig. 2). Also, note that the MMIC chips are coupled to a waveguide through a transition port (e.g. 145A in fig. 1). Moreover, such a circuit operates at frequencies on the order of 110GHZ (e.g. col 1, l. 50).

Accordingly, it would have been obvious in view of the references, taken as a whole, to have modified the MMIC chip of Hung et al to have included an MMIC circuit, such as taught by Sokolov. Such a modification would have been considered an obvious substitution of art recognized MMIC chip circuits, especially since the generic nature of the MMIC chip in Hung et al would have suggested that any equivalent and compatible MMIC chip circuit (e.g. Sokolov) would have been usable therewith. Moreover, note that such a obvious modification would have imparted the advantageous benefit of imparting frequency conversion properties to a like structure from the same field of endeavor (i.e. both references pertain to MMIC chip circuits which transition to a waveguide), and as such would have suggested the obviousness of such a modification. Moreover, note that in view of the frequency doubling aspect of the MMIC chip, such a circuit would necessarily operate as a frequency halver, in view of the reciprocal nature of such a circuit, as would have been known to those of ordinary skill in the art.

Applicant's arguments filed 27 December 2006 have been fully considered but they are not persuasive.

Applicants have argued that Sokolov only discloses a signal source providing multiply by two function integrated into the same package. Likewise, applicants' have argued that Hung et al discloses an electromagnetic coupling type transition operating at the same frequency. Thus applicants' conclude that the functions of Sokolov and Hung et al would not be compatible with each other and thus would not have been obvious to combine. Additionally applicants' assert that

because of the use of applicants' invention with radar, having the same features contain various functions would not have been suitable for the frequencies used.

In response, the examiner notes that although Sokolov and Hung et al appear to be diverse in their function and operation, this does not mean that they would not have been compatible in the proposed combination. It should be noted that Sokolov does disclose the benefit of integrating various functions into the same package, and since Hung et al does indeed use an integrated package in it's transition, this would have suggested that the integrated package of Hung et al obviously would have been capable of supporting a multi-function integrated package of the type in Sokolov, such as to have imparted the benefits of frequency multiplying by two to the Hung et al arrangement. As for applicants' assertion of the undesirability of integrating various functions to the same chip, it should be noted that such an argument would not have been commensurate with what is actually claimed. That is to say, nothing in the claimed invention that alludes to the use in a radar application or includes any positive language therein, which would have excluded the integrating of different features onto the same chip. Accordingly, the above rejection continues to meet the claimed invention for reasons stated.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Note that for the Information Disclosure Statement (IDS) filed 10 May 2006, the foreign patent document and non-patent literature have not been considered (i.e. citations lined through in applicants' PTOL-1449 of 10 May 2006) since no copies of such documents have been provided. Also, US Patent No. 6040739 has also been lined through since it has already been cited in the examiners citation of prior art (e.g. see PTO-892).

Any inquiry concerning this communication should be directed to Benny Lee at telephone number 571 272 1764.

B. Lee


BENNY T. LEE
PRIMARY EXAMINER
ART UNIT 2817